RISK RADAR™
USER'S GUIDE

Version 2.03 for *__MS Access 2000 ONLY__*!

June 2002

INTEGRATED COMPUTER ENGINEERING, INC.

Copyright © 1996-2002 Integrated Computer Engineering, Inc.
All rights reserved.

Risk Radar 2.03™

Introduction

Risk Radar™ is a risk management database that helps project managers identify, prioritize, and communicate project risks in a flexible and easy-to-use form. Risk Radar™ provides standard database functions to add and delete risks, together with specialized functions for prioritizing and retiring project risks. Each risk can have a user-defined risk management plan and a log of historical events. A set of standard short- and long-form reports and viewgraphs can be easily generated to share project risk information with all members of the development team. The number of risks in each probability/impact category by time frame can be displayed graphically, allowing the user to visualize risk priorities and easily uncover increasing levels of detail on specific risks. Risk Radar™ provides flexibility in prioritizing risks through automatic sorting and risk-specific movement functions for priority ranking. **Risk Radar™ Version 2.03 runs only on PCs, and requires Microsoft Access 2000 for operation.**

Table of Contents

List of Figures

1 Copyright, Disclaimer and Restrictions

Integrated Computer Engineering, Inc (ICE) distributes Risk Radar^{TM} (Version 2.03) as a free software product. ICE offers free downloads of this tool from their Web site, www.iceincUSA.com.

1.1 Copyrights

Integrated Computer Engineering, Inc. developed Risk Radar^{TM} (Version 2.03) and its associated documentation under U.S. Government Contract No. N00039-94-C-0153. All original source code and intellectual property copyrighted by ICE shall remain proprietary to ICE under Integrated Computer Engineering, Inc. Copyright © 1996-2002. All rights reserved. All original ICE copyrights, copyright notices, logos and splash screens shall be retained in their original locations and formats.

1.2 Disclaimer

ICE makes no warranties, express or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose. ICE makes no representation or warranty in respect of the use or results from application of the software regarding correctness, accuracy, reliability, or otherwise. The user assumes risk of software performance. In exchange for no cost use of this software, user voluntarily assumes full and complete responsibility and liability for any and all damages arising out of the use of or inability to use this software.

In no event shall ICE, its directors, officers, employees, or agents be liable for any consequential, incidental, or indirect damages (including damages for loss of business profits, business interruption, loss of business information, and the like) arising out of the use or inability to use this software even if ICE had been advised of the possibility of such damages. ICE's liability for actual damages for any cause whatsoever, and regardless of the form of the action (whether in contract, tort (including negligence), product liability, or otherwise), is limited to the U.S. Government under Contract No. N00039-94-C-0153.

1.3 Distribution

Users of Risk Radar^{TM} (Version 2.03) may distribute to software freely to others, but under no circumstances shall this software and/or its documentation be reproduced, modified **(EXCEPT AS DESCRIBED IN THIS USER'S MANUAL)** or sold without express written permission from Integrated Computer Engineering, Inc.

2   Tool Customization Services

Tool customization services are available through ICE on a fee-for-service basis. Pricing will be based on the complexity and scope of the requested modifications. Customized versions of these tools may be distributed within the client organization only. Customized versions of these tools shall not be further modified **(EXCEPT AS DESCRIBED IN THIS USER'S MANUAL)**, reproduced or sold without express written permission from Integrated Computer Engineering, Inc. For information send email to ICE@iceincusa.com

Note: Risk Radar^{TM} Version 2.03 is an evaluation copy of the licensed tool and therefore, does not allow the user to view the database tables or make changes to any of the forms, queries, or reports.

> **For information about purchasing a licensed version of Risk Radar^{TM}, please send email to ICE@iceincUSA.com**

3   Questions and Comments

Questions and comments regarding the use, distribution or modification of Risk Radar^{TM} may be directed to ICE@iceincusa.com

4   Available Training

Integrated Computer Engineering, Inc. offers a variety of project management and software engineering training courses including, training on Risk Radar^{TM}. For information about ICE training courses and technical support services, visit ICE on the Web at: www.iceincUSA.com or email us at: ICE@iceincusa.com

5   Technical Support

ICE offers technical for **licensed versions of Risk Radar^{TM} only**. Technical support is not available for users of the free evaluation version of Risk Radar^{TM} (Version 2.03). For information about purchasing a licensed version of Risk Radar^{TM}, please send to ICE@iceincUSA.com.

6   Background

6.1   Introduction

Risk Radar^{TM} is a risk management database that is designed to help project managers identify, prioritize, and communicate project risks in a flexible and easy-to-use form. Risk Radar^{TM} provides standard database functions to add and delete risks, together with specialized functions for prioritizing and retiring project risks. Each risk can have a user-defined risk management

plan and a log of historical events. A set of standard short- and long-form reports can be easily generated to share project risk information with all members of the development team. The number of risks in each probability/impact category by time frame can be displayed graphically, which allows the user to visualize risk priorities and easily uncover increasing levels of detail on specific risks. Risk Radar™ also provides flexibility in prioritizing risks through automatic sorting and risk-specific movement functions for priority ranking.

Risk management is not a hard science, and it requires that the risk manager combine the best-known technical information with good professional judgment. A guiding principle in Risk Radar™ development was to automate functions that clearly benefit the user, but also allow flexibility for individual judgment. For instance, risks can be prioritized automatically by clicking on a button to sort according to risk exposure, but the user also has the flexibility to move risks individually up and down in the priority ranking irrespective of numerical factors. Each risk has a historical events log so that the user can record decisions and events that influence how the risk was managed. A key element of risk management is maintaining the set of project risks so that the most important risks are prioritized from the perspective of the project team or organization. Risk Radar™ attempts to facilitate this process to be as simple and straightforward as possible.

Risk Radar™ is designed with the rationale that the most important part of risk management is to identify the highest-priority risks and to keep attention focused on them as a project evolves over time. Risk management is a dynamic and proactive process that requires continuous vigilance. An important risk this month might not be important next month. It is impossible to predict all the risks a project might face in the future, and it is futile to try. However, future events or conditions that could be a major threat to a project's success should be diligently watched. Risks will pop up, be mitigated, and then hopefully be relegated to a much lower level of concern, and eventually be retired. Other risks will likely step in to replace them. Risk Radar™ does not discover risks; the project team must do that. But once a risk is identified, Risk Radar™ allows the risk to be fully described and prioritized relative to the other risks a project faces. The key to successful use of Risk Radar™ is to keep the highest-priority risks at the top of the risk-ranking list and to focus mitigation efforts on them. With Risk Radar™ a risk can be described; prioritized relative to all the other risks in the database; a risk mitigation plan can be developed; and events and decisions recorded that affect the risk over time. Risk Radar™ includes a full set of standard short- and long-format reports as well as a viewgraph-formatted report for communicating risk priorities and mitigation efforts to upper management and the entire project team.

To perform the prioritization process, subjective estimates must be made based on professional judgment of the probability that a risk will occur and its negative impact on the project if it does occur. A probability of between 1 and 99 percent and an impact value of between 1 (for very low) to 5 (for very high) is assigned for each risk in Risk Radar™. The program then multiplies these numbers together to calculate a risk exposure for each risk. Although a risk impact could be broken down and quantified into all kinds of impacts areas, such as the schedule impact in terms of days or cost impact in terms of dollars, in reality, the current state of the practice of project risk management does not permit quantification of these impacts with any degree of accuracy. And adding multiple impact areas adds complexity to the risk management process

while providing little quantitative benefit. The 1 to 5 rating system is a subjective rating of the total impact the risk could have on a specific project. Risk Radar™ does not presuppose what an impact value of 4 or 5 means to a project. The project team must come up with the definitions and stick to them. These numbers are, and will continue to be for the foreseeable future, guesses based on past professional experience. Risk Radar™ uses risk exposure purely as a means to help rank risks relative to one another, but it assumes these numbers have little or no meaning in an absolute sense. **In most cases it would be inappropriate to compare risks across projects based solely on numerical factors such as probability, impact, or exposure.** The best that can be hoped for is that the project team will use numerical risk values consistently over the life of the project so there is a consistent ranking of risks to keep the most important ones at the top of the list.

Time must also be considered when managing risks. Risks are fundamentally characterized by negative impacts that might occur in the future. Although some risks are tied closely to discrete events, such as a critical piece of software that must be received from a supplier at a particular date, Risk Radar™ is more general and allows an impact time frame to be identified. The impact time frame is an interval over which the risk's impact might materialize. As a project draws closer to one of these time frames, this will be calculated by the program and show up as the number of days to the impact time frame and its impact horizon in terms of near-, mid- and far-term for each risk. Is a risk with a risk exposure of 2.5 and a near-term impact horizon more important than a risk with a risk exposure of 4.5 and a far-term impact horizon? Risk Radar™ will not answer that question, but it will provide **the project management team** with the tools to help answer that question and keep the most important risks at the top of the priority ranking.

6.2   How Does Risk Radar™ Work?

Risk Radar™ operates in Windows 98, and Windows NT and is a Microsoft (MS) Access 2000 database application. <u>**MS Access 2000 must be installed for it to run**</u>. An MS Access 2000 database application is identified by a filename with an extension of "MDB"— for example RISKDB.MDB. An MS Access database application includes all the data tables, application screens, Visual Basic code, and related material together in one file. Each project will have its own separate Risk Radar™ database, and therefore its own MS Access database file. A unique feature of MS Access is that in most cases when data on the screen is changed, it is changed at the same time in the underlying database file. This means the ability to undo changes simply by exiting Risk Radar™ and opting not to save the changes, as is the case with other applications such as MS Excel or MS Word, does not exist. The word to the wise is that changes to Risk Radar™ databases should be made carefully. The database should be backed up frequently, as with any mission critical data. Versions of risk databases should be stored in backup files at various milestones or at regular intervals so that the database can be restored in case something untoward happens to the original.

Risk Radar™ Version 2.03 is currently a single user application that is appropriate for use on a single PC. It does not include the security features that would be required for a network-based application where many users access the same database. Users with advanced experience with MS Access can add their own security features using standard MS Access operations. See the MS Access User's Manual for details.

6.3 Starting Risk Radar™

If the correct version of Risk Radar™ has been installed (see installation instructions below) and if MS Access has been properly installed, clicking on any Risk Radar™ database filename (for instance RR203_2000NW.MDB for Access 97) in Windows Explorer will automatically start MS Access and, Risk Radar™ will automatically start up. Another option is to start MS Access and then use the standard File/Open menu selections to open the Risk Radar™ MDB file.

Although Risk Radar™ uses MS Access, in general, knowledge of MS Access is not needed. Risk Radar™ overlays its own screens on top of MS Access to help managing risks without having to use or learn MS Access. The only exception is printing reports. The standard report-printing screens in MS Access are used. The report-printing features of MS Access are very similar to those in other MS Windows applications and should be straightforward to use.

This release package includes two risk database files: an example risk database with example data in it (RR203_2000Seeded.mdb), and an empty risk database with no data in it (RR203_2000NW.mdb). To create a new risk database for a project, copy the empty risk database file into a new file with a meaningful project name and then start entering data. Use the example risk database to experiment with Risk Radar™ and explore its functions and reports. The specific files in this release are described below and in the README_RR2000.TXT file.

6.4 Hardware and Software Requirements

The following minimum configuration is required:

Standard PC equipped to run Windows 98 or NT and MS Access 2000. Risk Radar™ is no longer compatible with previous versions of Windows or Access.

6.5 Acknowledgments

John E. Moore, Ph.D., of Integrated Computer Engineering, Inc., created risk Radar™ for the SPMN. We would like to thank the many beta testers and users who provided comments and suggestions to make Risk Radar™ a successful risk management tool.

Mr. Tevis Boulware of Integrated Computer Engineering, Inc. now maintains Risk Radar™. He has added new features and enhanced the tool to run under Windows 98 and NT, and MS Access 97 and Access 2000.

7   Installing Risk Radar™

Risk Radar™ Version 2.03 is an MS Access 2000 database application. **MS Access 2000 must be previously installed.** Risk Radar™ is available as a Zip file to download from the ICE Website at www.iceincUSA.com/products_tools.htm . The user must select the appropriate Risk Radar™ Version 2.03 for MS Access 2000.

The appropriate Risk Radar™ WINZIP download file contains all the required Risk Radar™ . Create a temporary folder on your hard drive. The default is C:\WINDOWS\TEMP\. "UNZIP" the WINZIP file and extract the compressed Risk Radar™ files to your desired directory.

Note: Risk Radar™ Version 2.02 for MS Access 97 will not run in MS Access 2000 because the software code has been compiled and locked. Likewise, Risk Radar™ Version 2.03 for MS Access 2000 will not run in MS Access 97.

Note: If you do not have WINZIP, you can download a free evaluation copy at www.winzip.com

The extracted files will be:

RR203_2000Seeded.MDB	The Risk Radar™ database with example data
RR203_2000NW.MDB	An empty database used to create new databases.
RRUSER203.pdf	Risk Radar™ User's Manual
RRCopyright.pdf	Copyright and disclaimer
PROBREPT.XLS	An MS Excel workbook for recording comments and problems.
README_RR2000.txt	Basic file information

7.1   Problem Reporting and Suggestions

Any defects discovered or suggestions for improvement will help make Risk Radar™ a better tool for other project managers. Use the Excel workbook PROBREPT.XLS to register problems or suggest improvements. E-mail the file to the address below. Also, if problems are encountered installing or running Risk Radar™, or if there are any questions, contact:

Integrated Computer Engineering, Inc
ICE@iceincusa.com

Note: There is a known error for some sites using the Browser button on the Import screen. This most commonly occurs on NT systems. This is a Microsoft problem. If this problem occurs, please contact us for additional information.

Establishing Your Own Project Risk Radar™ Database

The file RR203_2000nw.MDE is provided as an empty database template for use when you want to establish a new database for your project. To create a new database:

a. Open the RR203_2000nw.MDE database by double clicking on it or by first opening MS Access 2000 and then opening the "new" database file.

b. Click on the "Setup Project" button and enter the name of the new project, the number of days to define short-term, mid-term and long-term time frames, etc. At this time the drop down tables Risk Area Categories, Status Categories, and Control Categories can be customized. Click on "Close."

c. Use the "Edit Risks Long or Short Form" screen to enter new risks into the new database or use the Import capability to load risks from an existing Risk Radar™ database.

8   General Instructions

8.1   Automatic Start-up

The main screen is displayed automatically when using Windows Explorer to open a directory and then double clicking on a Risk Radar™ file or by opening a Risk Radar™ file from within MS Access starts Risk Radar™. This is the home base from which to access all functions in Risk Radar™.

8.2   Accessing MS Access Functions and Risk Radar™ Tables

The standard features of MS Access 2000 are available through the menu bar at the top of the screen. These MS Access features will not be described in this guide unless they are required for running Risk Radar™ (for example, see the description for printing screens below). If there is interest in exploring MS Access 2000 further, consult the MS Access 2000 User's Guide or one of the many good reference and teaching books on MS Access 2000.

To be able to look at the underlying Access database tables, close the Main Screen by clicking on the close icon (the small box with the "X" in it in the upper right hand corner of the main screen), or click on File and then Close on the menu bar.

8.3   Printing Screens

Although the Reports portion of Risk Radar™ provides preformatted reports, there might be occasions when a Risk Radar™ screen itself can be printed for use in a presentation or a report. To print a screen, click on File on the top menu bar and then click on Print. See the documentation for MS Access for details. Another method of capturing screen images is to press the Print Screen key on the keyboard. This places a BMP-formatted image of the current screen in the MS Windows copy buffer. Then go to another graphics application such as MS

Paintbrush and click on Edit and then Paste to paste the image into the application. The screen image can then be pasted into an application. See the documentation for Windows and the specific graphics application for details.

9 Main Screen

The following gives a brief description of each of the buttons on the Main Screen that is the home base from which to input, modify, import, prioritize, display, and generate reports on a
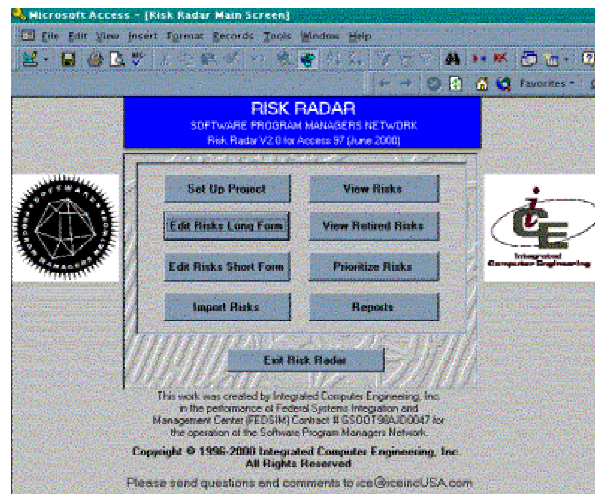
project's risks. Click on a button to open screens that will help perform the appropriate operations. Note: The word "click" in this document means a left mouse button click. If a right mouse button click is meant, it will be called out specifically as a "right mouse click." Click the close button in each to return to this Main Screen. Detailed descriptions follow in the succeeding sections.

Set Up Project Button

> The **Set Up Project** screen allows setting project specific information, such as the title of the project, in one place. Once these values have been set for a project, they are not likely to change.

Edit Risks Long Form Button

> The **Edit Risks Long Form** screen is the primary screen for editing risks. This screen has buttons that allow easy adding of new risks, modifying existing risks, deleting risks, and retiring risks. The screen is called a long form because it requires more than one computer screen to view it all. In this screen, the risk data elements have plenty of room for field descriptions.

Edit Risks Short Form Button

> The **Edit Risks Short Form** screen has many functions similar to the long form described above, but presents all of the information for a risk on a single screen without scrolling. This means there is less room for field descriptions. Once you are familiar with the fields on the long form, you will probably use the short form when the data on a

risk has to be updated. The major functional difference between this form and the long form is that it does not have buttons to add, delete, and retire risks.

Import Risks

The Import Risks screen allows the user to import risks into a Risk Radar™ database from other Risk Radar™ databases. This allows an easy method for migrating risk databases created in a previous version of Risk Radar™, or for importing specific risks from another database that might be appropriate for reuse.

View Risks Button

The **View Risks** screen is a graphical display of risks by risk exposure category and impact time frame. This screen allows clicking on risks to uncover increasing levels of detail.

View Retired Risks Button

The **View Retired Risks** screen provides a simple table of all risks that are no longer considered a threat and have been retired from active risk management. This information might be useful in formulating new risks and for project postmortems.

Prioritize Risks Button

The **Prioritize Risks** screen is a central part of Risk Radar™. It provides means for prioritizing risks using automatic sorting buttons, manually moving risks in the priority ranking, and renumbering the priority rank of all risks. This screen is used for prioritizing risks, which is a principal element of risk management.

Reports Button

The **Reports** screen contains a set of predefined reports in both long-form (one risk per page) and short-form (one risk per line) formats that can be generated by clicking a button. This screen is used to generate reports for upper management and the rest of the project team.

Exit Risk Radar™ Button

The **Exit Risk Radar™** button will exit both the Risk Radar™ database and MS Access.

10 Set Up Project Screen

The **Set Up Project** screen allows setting up project specific information, such as the title of the project, in one place. Once these values have been set for a project, they will not likely change. The data entry fields are:

Project Title

Enter the name for the project here. This will be used to identify the project in reports.

Impact Horizon Definitions

The fields shown here define the number of days that will be used to define short term, mid term, and long term for classifying the impact horizon of a risk on this project. See the Edit Risks Long Form screen description for the definition of Impact Horizon.

Risk Area Categories

This list of categories allows customizing the text options that are available for selection in the Risk Area field to suit the needs of the project or company standards (see the Edit Risks Long Form Screen for a description of the field). The list of categories established here would be available to the user via a drop-down selection list. To add a new category, start typing in the blank line at the bottom of the list. The list will always be presented to the user in alphabetical order. To delete an item, delete all the text including any blank spaces. The text in a category can be changed using standard keyboard and mouse functions. Note that the category selection lists only provide a set of selection options that are inserted into the database as a text string. If the text in a category is changed here, it will not be reflected in the previous use of that category in the database, only in new occurrences.

Status Categories

This list of categories allows customizing the text options that are available for selection in the Status field (see the Edit Risks Long Form Screen for a description of the field).

The Status field is important because it is used in the database to determine which risks are active, which are retired, and which have been deleted. The reserved keywords "Retired" and "Deleted" are also used in the database in this field, but they should not be shown during risk editing in this list because the data entry person might accidentally select one of these without fully knowing the consequences. Adding and deleting categories from the list is the same as that for the Risk Area categories described above.

Control Categories

This list of categories allows customizing the text options that are available for selection in the Control field (see the Edit Risks Long Form Screen for a description of the field). Adding and deleting categories from the list is the same as that for the Risk Area categories described above.

Close Button

This button will close this screen and return to the Main screen. See discussion under Common Features.

11 Edit Risks Long Form Screen

11.1 Description

This is the primary screen for modifying risks and editing risk records. This screen allows adding new risks, modifying existing risks, deleting risks, and retiring risks. The screen is called a long form because it provides a description of each field that requires scrolling down using the right scroll bar to view all input fields. This screen has buttons to add, delete, and retire risks. Fields that should have an input value are marked with a "*" in the descriptions below. Input in the other fields is optional. Units or ranges are indicated in parentheses. Features that are common to this screen and many of the others are described in the Common Features section below.

11.2 Features

Prev. Button

> Click on this button to see the previous risk. Risks are ordered for this screen according to their ID. The standard MS Access record navigation icons at the bottom of the screen for moving among risk records in the database can be used. The left arrow icon, for

instance, also moves to the previous risk. The record navigation icons offer more capabilities than the Next and Prev. buttons. See the MS Access user's guide or click on Help to learn about these features. At the first risk in the database, a warning message will be issued when this button is clicked, and the database will position to the first risk.

Next Button

Click on this button to see the next risk. The right arrow navigation button at the bottom of the screen performs the same function. At the last risk in the database, clicking on Next will allow entering a new risk, which is the same thing as clicking on the Add New Risk button (see below).

Add New Risk Button

Clicking on this button will start the process of adding a new risk to the database. A standard long form risk screen will appear with all fields empty except the ID field and a few others with default values. The ID is set automatically by the database. It cannot be changed. By entering data into any of the other fields, a new risk will be created in the database and a new ID number will be put automatically in the ID field. If no data is entered on this screen, and either the form is closed (see the Close button below) or moved to the previous risk (see Prev. button above), a new risk will not be added to the database.

Note that default values will be assigned for Probability, Impact, and Rank. In addition to Title, these are the only fields that absolutely require data in them. The defaults are not "average" values, so change them to reflect the actual risk and re-prioritize the overall risk ranking as soon as possible. A value should be in these fields at all times to ensure consistent reporting and displays in Risk Radar™.

Delete Risk Button

This button will remove the risk from the list of active risks. A warning message pops up to verify this action. Use this button to remove risks that are poorly formulated or have been replaced by another risk. Consider using the Retire Risk button before using this button. A "deleted" risk record is not actually deleted from the database, but its Status field is given a value of "Deleted," which means the record will not show up in the list of active or retired risks. It is possible to restore a deleted risk to either active or retired status, but this requires entering the risk directly into the database table in MS Access and then changing the value in its Status field to one of the status categories in the Set Up Project screen or "Retired."

Retire Risk Button

This button will move the current risk and its mitigation plan and historical events log from the list of active risks to the list of retired risks. The risk is not actually in a separate table, but its Status field is changed to "Retired" which makes it show up on the list of retired risks instead. It is possible to restore a retired risk to active status. See **View Retired Risks Screen** and follow the new procedure to restore the retired risk above.

ID Field (Automatic)*

The ID is the unique identifier for a risk. This ID number is set automatically by the system when new risks are added. It cannot be modified. See the discussion above on **Add New Risk Button** for details.

Title Field*

Enter a short title in this field so the risk can be easily identified in tables and reports.

Rank Field

This is the current priority ranking of the risk relative to all other risks. Rank 1 is highest priority, rank 2 next, and so on. Although a priority ranking can be assigned here, the **Prioritize Risks** screen described below is designed to help set this value. New risks are automatically assigned a rank of zero, which will temporarily place them at the top of the priority ranking until the rank is properly assigned. The "Out of" field shows the total number of active risks in the database. The **Prioritize Risks** screen should always be used to maintain the proper rank of risks. If the risk ranking is not carefully maintained with the **Prioritize Risks** screen, it is possible for more than one risk to have the same rank number or for there to be missing rank numbers or inappropriate rank numbers (i.e. zero).

Description Field

A full description of the risk and its impact on the project can be given here. Do not include information covered in the other fields. Use the Enter key to insert paragraphs to make the text easier to read. Unfortunately, tabs cannot be entered in the text.

Status Field

This shows the current status of this risk in the risk management process. For instance, it may indicate whether it is actively being mitigated, being watched, on hold, etc. The options for the pull-down menu are set in the Set Up Project screen (see previous section). See that description for a more detailed discussion of the importance of this field and the reserved keywords that should not be used.

Probability Field (%)*

This contains the current estimate for the probability (in percent) that the risk will occur over the impact time frame (see below). Values from 1% (extremely unlikely) to 99% (almost certain) are valid. This value will be based on professional judgment and past experience, in other words, most of the time it is an educated guess. This value will likely change over time as the risk is actively managed. Note that a risk cannot have a probability of 0% because that would mean the impact of the risk could never materialize, which would by definition mean it is not a risk!

Impact Field (1 to 5)*

This represents the current estimate for the impact the risk will have on the project if it materializes. Like probability above, this will likely be an educated guess. An impact is an undesirable consequence, which would negatively influence the project. The values of 1 to 5 represent a subjective ranking of the impact: 1=very low, 2=low, 3=moderate, 4=high, 5=very high. Since there are many impacts a risk might have on a project, such as greater costs, delayed schedule, reduced quality, and so forth, guidelines should be established for a particular project for assigning a consistent impact category for different risks and projects. As an example, impact costs of less than $1000 correspond to an impact of 1; $1,000 to $10,000 an impact of 2; etc. The impact value will likely change over time as the risk is actively managed. The primary purpose of the probability and impact numbers are to help rank risks relative to one another. The absolute value of these numbers is not as important as their consistent use over the life of the project.

Risk Exposure Display

This is not a data entry field, but a calculated value, where risk exposure equals probability multiplied by impact. Risk exposure is a standard quantitative measure of risk, and is used to compare risks with one another. Because of the limits on the ranges of both probability and impact, risk exposure will have a value between .01 (very low exposure) and 4.95 (very high exposure).

Impact Time Frame Fields*

The first field is the earliest date the risk impact could materialize and the second field is the latest date it could materialize. Dates must be entered in any of the standard formats such as "3/1/00." Note that the keyword "BOP," meaning beginning of project, can be placed in the first field and the keyword "EOP," meaning end of project, can be placed in the second field. These keywords ease data entry because assigning specific dates for risks that cover these time frames is not necessary. For instance, to describe a risk that could occur anytime during the life of the project, such as "The project leader might quit," enter "BOP" in the first field and "EOP" in the second.

Days to Impact Time Frame Display

This represents the number of days from the present to the impact time frame (see above). If the earliest and latest dates of the impact time frame are both in the future, this number will be positive and will be the number of days between now and the earliest impact time frame date. If the impact time frame spans the present, this number will be zero. If both the earliest and latest dates of the impact time frame are in the past, the number will be negative and will be the number of days between now and the latest date. An active risk should never have a negative value in this field, which means the risk is in the past and is therefore no longer a threat. Negative numbers mean the risk needs to be examined more closely, either to retire it or change its impact time frame.

Impact Horizon Display

Using the definitions set up in the Set Up Project screen, the program will use the Days to Impact Time Frame value to assign the risk to an impact horizon category.

- NEAR represents near term

- MID represents mid term

- FAR represents far term

- PAST represents risks that are no longer a threat

Date Identified Field

This is the date the risk was first identified. Only standard date formatted text, such as "3/1/00" or "1-Mar-00," is valid as input.

Responsible Person Field

This is the person responsible for tracking or managing the risk.

Program Areas Field

Describe project areas or components that are affected by the risk here. This might include specific products or configuration items that would be impacted if the risk were to materialize.

Affected Phases Field

Describe development phases (such as requirements or design), work packages, or work activity network components that identify which phase would be impacted if the risk were to materialize.

Risk Area Field

Use this field to assign the risk to a risk category. The pull-down menu provides a predefined set of Risk Area categories (see Set Up Project screen for setting the categories in the pull-down list).

Control Field

Use this field to indicate whether the source of the risk is internal or external to the organization (see the Set Up Project screen for setting the categories in the pull-down list).

Contingency Plan Field

The contingency plan is the set of actions to take should the risk materialize. If the plan is extensive, this will likely point to another document.

Risk Mitigation Description Field

Use this field to describe the approach or other background information regarding the mitigation efforts that will be taken on the risk. This field can be used in conjunction with the Risk Mitigation Steps Table (see below) to describe the intention of the mitigation efforts and how they will be done.

Risk Mitigation Steps Table

This table allows specifying steps to take in mitigating the risk. Each step has a:

Step	Number that is user-defined, that will probably start at 1 and increment upwards.
Description	A short description of the actions to be taken.
Person	The person responsible for carrying out these actions.
Due Date	Date the step should be completed.
Completed?	A check mark to indicate if the step was completed successfully.

The steps in this table are sorted according to step number when first viewed. Therefore, mitigation steps can be reordered or new steps inserted by changing step numbers, leaving this risk and coming back to it. (Note on MS Access: To view full text in truncated text boxes, the left and right keyboard scroll buttons must be used to navigate.)

Historical Events Log Table

This table allows recording events about the risk that might be useful in evaluating its importance or in justifying specific actions that were taken. For instance, external events might occur that caused a change to the impact or probability of the risk. This historical log can serve as a repository of thoughts and decisions that affect how the risk was perceived, mitigated, and hopefully retired. Each event has a:

Date	Pertinent date for information, such as the date an event occurred, the date a decision was made, etc.
Person	Person most knowledgeable about the event
Description	A short description of the event.

The historical events in this table are sorted according to date when this risk was first viewed.

11.3 Common Features

The Close button and the record navigation buttons present on this screen are common to many of the other Risk Radar™ screens.

Close Button

Clicking on this button will close the current screen and return to the screen it was called from. This button is found in the upper right hand corner. The only exception to this rule is when viewing reports that have been generated by MS Access report writer. In that case, the button with a "closing door" icon will close the screen. The "close window" icon can also be used. That is one of the three small window-control icons found on most

MS Windows screens. Warning! There are two sets of these icons, one for the MS Access window in the far upper right hand corner, and one for the Risk Radar™ application window just below it. Use the lower one of these sets. If the far upper right "close window" icon is clicked, it will close MS Access entirely, not just the current Risk Radar™ screen.

Icons Record Navigation

At the bottom of many of the screens that display risks is a set of record navigation icons that are standard in MS Access. Although some of these functions are duplicated in the buttons at the top of the screen, advanced users might find these icons useful. The icons provide another means to move through the records of a table being displayed on a screen. The double left arrow moves to the first record in the table. The left arrow moves to the previous record from the present. The number shows the current record number. By changing this number, Access will move to any predetermined record directly. The right arrow moves to the next record. The double right arrow moves to the last record.

It is possible to add a new risk in the Edit Risks Long Form and Edit Risks Short Form screens using the record navigation icons. Click on the double right arrow to move to the last record. Then click on the single right arrow and an empty screen with the default values in appropriate fields will display just as if the Add New Risk button had been clicked. As soon as data is entered in any of the fields, a new record will be created in the table. If an empty screen is "navigated" out of (left arrow, double left arrow, or close screen) without entering any data, no new record will be created. If a new record is accidentally created, it can be removed using the Delete button.

12 Edit Risks Short Form Screen

This screen has the same data fields as the Edit Risks Long Form; only the format is more compact to fit on a single screen for easier viewing and editing. Unfortunately, this means less room for on-screen field descriptions. Once you become familiar with the fields and what they mean, this screen will likely be used for day-to-day updating of risk data. Since the data fields are exactly the same here as in the Edit Risks Long Form, those definitions won't be repeated here.

A major difference between this screen and the Edit Risks Long Form is that it does not have any of the button functions. Use the standard MS Access record navigation icons at the bottom of the screen to step through the risks and even add a new risk. This feature was discussed in the Common Features section. A risk cannot be deleted or retired from this screen; the Edit Risk Long Form must be used. Close this screen by clicking on the Close button in its upper right hand corner.

To fit all the information about a risk from the database on one screen, tabs are used at the bottom of the screen to access the Contingency Plan, Risk Mitigation Description, Risk Mitigation Plan, and the Historical Events Log. Click on one of the gray tabs and its information will pop to the front for viewing and editing.

13 Import Risks Screen
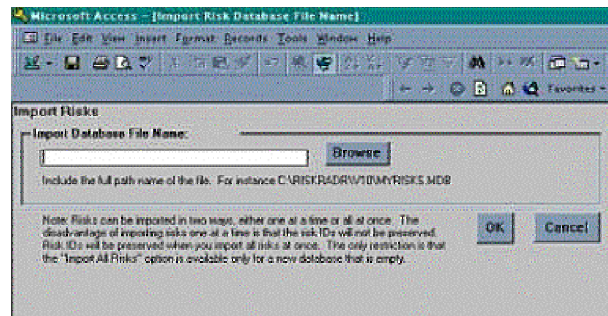
Risks can be imported into a Risk Radar™ database from other Risk Radar™ databases. This allows an easy method for migrating risk databases created in a previous version of Risk Radar™, or for importing specific risks from another database that might be appropriate for reuse. Enter the full path name for the risk database in the Import Database File Name field manually or use the **Browse** button. After clicking on the OK button, the program will determine automatically if the import database is in Risk Radar™ V1.1 or later format and will display the import screen.

Note: There are some sites that have experienced errors using the **Browse** button. These are Microsoft documented problems. The correction can be found at the Microsoft web site under Product Support Services. The documents are:

- Q181854 – File: Vbc.exe Fixes VB 5.0 Control Installation Problem

- Q172859 – ODE97: "You Don't Have a License" Error Using ActiveX Control

13.1 Import Risks

This screen displays each risk in the import database in a long-form format. There are two different methods of importing risks, which are described in the descriptions for the **Import This Risk** and **Import All** buttons below. The basic restrictions are that, if the existing database is a new database with no risks in it, all of the risks can be imported from the import database simply by clicking on the Import All button. Otherwise risks will need to be imported one at a time using the Import This Risk button. The Prev and Next buttons have the same functions for moving through the risk records as described previously.

Import Active/Retired Risks Pull-Down Selector

Use this pull-down selector to choose between viewing the active risks or the retired risks in the import database.

Import This Risk Button

This button will execute a procedure to import this risk into the database. The warning message describes some of the assumptions that will be made concerning differences in

the format of Risk Radar™ V1.0 and V1.1 or later databases. The import risk ID will likely not be preserved after it is imported because the program automatically assigns it the next available number in the sequence. If there is a need to track a risk back to its previous database, write the message down and record the changed ID numbers in the historical events log.

Import All Button

This button will import all risks, including those that were deleted, into the new database. This button is active only if the database is new and without any risks in it. All IDs will be preserved between the import and new databases using this method. Risks can be imported one at a time from both the active and retired lists but their ID numbers will not be preserved. To create a new database that is empty, see the section **Creating a New Risk Radar™ Database**.

14 View Risks Screen
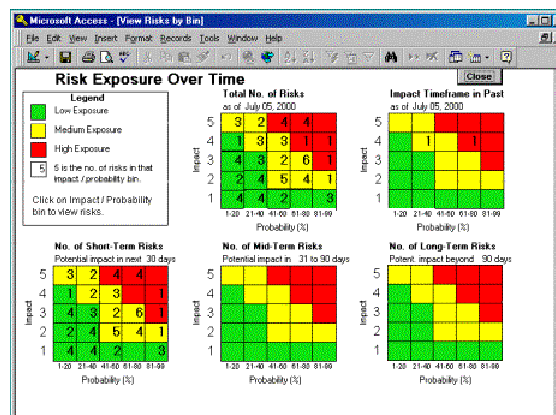
14.1 Description

This screen is designed to show the number of risks in all possible probability/impact combinations, and categorized according to time frame. By clicking on any of the grid cells, a list of the actual risks in that probability/impact bin will be displayed; and by clicking on the Risk ID of the displayed risks, a full description in short-form format will be displayed. There are six primary elements on the screen:

Legend Box

Describes graphical elements used in the five Probability/Impact grids. The green is for low-risk exposure, yellow for medium-risk exposure, and red for high-risk exposure. The number in each grid cell shows the number of risks in that grid cell category.

Total No. of Risks Grid

Shows the number of risks in each Probability/Impact grid cell category for all active risks, regardless of Date of Impact. The risks that present the lowest risk exposure are in

the lower left hand corner. The risks that present the highest risk exposure are in the upper right hand corner.

Impact Time Frame in Past Grid

Displays the same information as the first grid, except only for those risks who's Impact Horizon is completely in the past. These risks should be examined to determine if they are still active, in which case the Impact Time Frame fields should be updated. If the threat of their impact has already passed, then the risks should be retired (see **Edit Risks Long Form Screen**).

No. of Short-term Risks Grid

Displays the same information as the first grid, except only for those risks whose Impact Horizon is in the short term, as defined in the Project Set Up screen. The risks in this grid most likely present the greatest threat to the project because they are most likely to materialize the soonest. It is likely mitigation efforts will concentrate on the risks with the highest exposure in this grid first.

No. of Mid-term Risks Grid

Displays the same information as the first grid, except only for those risks who's Impact Horizon is in the mid term, as defined in the Project Set-up screen.

No. of Long-term Risks Grid

Displays the same information as the first grid, except only for those risks who's Impact Horizon is in the long term, as defined in the Project Set-up screen.

14.2 Risks Pop-up Screen

By clicking on any of the nonblank grid cells, a screen will pop up listing the risks in that grid cell. This can be used to quickly identify which risks are present in each category.

14.3 Risk Detail Screen

By clicking on the ID of any of the listed risks in the pop-up, a full screen display in the short-form format will come up, showing all of the risk fields as well as the mitigation plan and historical events tables.

15 View Retired Risks Screen

Retired risks are those that have been removed from the list of active risks and placed in the retired risks list. This screen provides a one-line description along with a few pertinent data fields for each retired risk. See the description of the **Retire Risks** button under the **Edit Risks Long Form Screen** for a detailed discussion.

To see the details about a retired risk, click on its ID, and the **Retired Risk Detail** screen will pop up which shows the risk information in short-form format. This data cannot be edited. To restore retired risks: click on the **ID NUMBER** of the risk to be un-retired, select the new **STATUS** from the drop-down box, close the **Retired Risk** detail form, then close the Retired Risk form. The risk is now available to update and prioritize as required with the standard Risk Radar™ Tools set.

16 Prioritize Risks Screen

The key purpose behind any risk management tool is to help track and mitigate those risks with the greatest threat to the project. Since most projects have limited resources, not all risks can be actively mitigated all the time. The problem is dynamic because the importance of most risks will change over time or be influenced by external forces. What was an important risk one week might be less critical the next or might have been upstaged by other risks. In most organizations, a set number of risks, such as 10 or 20, are actively being mitigated at any one time. It is critical to know what the highest-priority risks are and how they stack up against the others. The Prioritize Risks form is designed to help in making these decisions.

Note that new risks created with the Edit Risks Long Form screen will have a default rank of zero (unless the user changes it) and will thus be shown at the top of the list. Zero is not a valid

ranking, but it provides visibility to those risks that have not been fully evaluated and ranked. It is also possible for more than one risk to have the same rank (for instance, if the user edited the rank field and set the number by hand, or if a risk were imported from another database), or for there to be missing rank numbers (which might occur if a risk were retired or deleted). That is not important when first coming into this screen. However, ensure all risks are ranked properly and sequentially before exiting this screen. The only way to ensure this is to click on the "Renumber Ranking" button after prioritizing the risks on the screen in the order desired (see discussion below). There is a great deal of flexibility in assigning rank and priority in Risk Radar™; but it is important to maintain the ranking of all risks on a regular basis using this screen to ensure there are no zero rank numbers, no missing rank numbers, and no duplicate rank numbers.

When the Prioritize Risks screen first comes up, risks will be presented one to a line, sorted according to rank (shown in blue) with the highest priority at the top. Using this form, different orderings of the risks can be explored by reordering them on the screen, irrespective of their current priority ranking, before committing to a new priority ranking. This screen provides two automatic ordering buttons and a manual method for reordering risks. The screen also allows editing values, so values can be changed for any of the visible fields here, including probability, impact, and rank. Note that changing values on this screen automatically changes them in the underlying database.

Exposure Button

The **Exposure** button at the top of its column will automatically sort all risks according to their risk exposure. This is the most common way to prioritize risks because the probability and impact numbers are used to quantify the overall risk exposure, which is a single measure of relative risk.

Rank Button

The **Rank** button at the top of its column will automatically sort all risks according to rank. This is the default ordering of risks when the screen first appears. Editing its rank field and then clicking on the Rank button to move it to a new position can change the rank of a risk. If the actual rank numbers of any risks have not been changed, this button allows return of the risks to the original order when started. This can be useful for undoing a series of changes when exploring other prioritization of the risks.

Move Column

Although the risk exposure parameter (which is automatically calculated by Risk Radar™ by multiplying probability and impact) can help rank a risk relative to the others, this is not a completely objective value and that ranking risks necessarily involves the subjective expert option based on professional experience. While there are other important factors, such as Impact Horizon, that might be important, there could be completely subjective reasons for ranking one risk higher than another, such as "The boss thinks this one is the most important." There are also likely to be risks that have the same risk exposure, and therefore need to be ranked relative to one another.

The **Move** column allows complete flexibility in ordering the risks. Using this column, individual risks can be moved up or down in the list. Place the letter "m" (for MOVE) in the first column of a risk to mark it for movement. Then, place the letter "a" (for AFTER) or "b" (for BEFORE) in the first column of another risk where it is to be moved. The risk will move automatically. Once the risk has been moved, these letters are automatically erased to be ready for the next move.

Renumber Ranking Button

Once the new priority of risks is satisfactory, represented by their ordering from top to bottom on the screen, their rank can be changed appropriately by clicking on the **Renumber Ranking** button. This will renumber the rank of each risk according to its current order on the screen. Note that once this operation has taken place, the rank cannot be automatically returned to its previous state. This is the only way to ensure that there are no risks with a rank of zero; none with duplicate rank numbers, or that none of the rank numbers are missing.

If this screen is left without clicking on this button or without changing any of the rank numbers manually, the risks will have the same rank as upon entering the screen.

17 Reports Screen
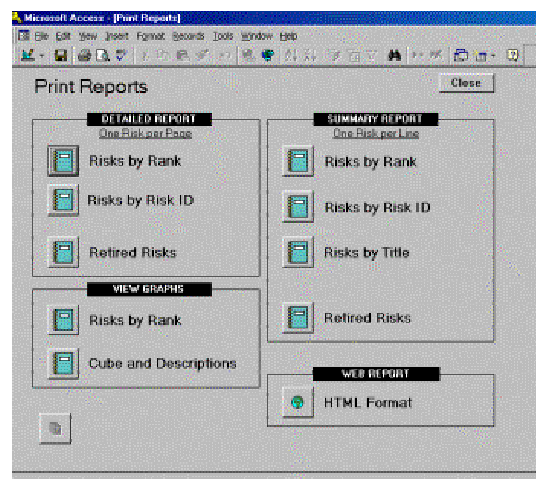
17.1 Description

This screen offers three groups of sample reports. The group titled **Detailed Report** prints out reports with each risk starting on a new page. The group titled **View Graphs** prints out risks in a viewgraph format. The group titled **Summary Report** prints out a much shorter version with each risk on a new line. The risks in these reports are sorted according to the criteria specified, for instance by risk ID or rank.

Clicking on one of these buttons will generate a standard MS Access print preview of the report. If the report appears satisfactory, click on File and then Print (or the printer icon) to send the report to the printer.

17.2 Exporting Screens to MS Power Point

There are other options for capturing a report (or a screen) so it can be used in another document such as an MS PowerPoint presentation. The VIEW GRAPHS, Cube and Descriptions can be copied to an MS PowerPoint presentation. First display the desired cube. Press the Print Screen key. The image can now be pasted into an MS PowerPoint presentation slide.